No. 804,809. PATENTED NOV. 14, 1905.

A. W. GRAHAM.

FURNITURE CASTER.

APPLICATION FILED FEB. 3, 1905.

Fig. 1.

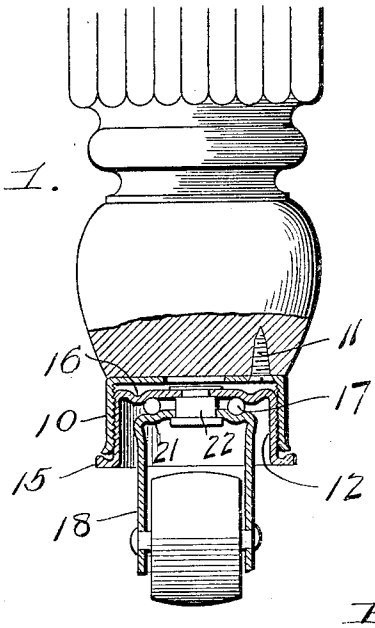


Fig. 2.

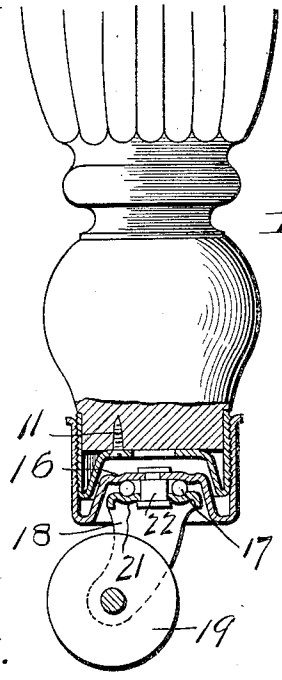
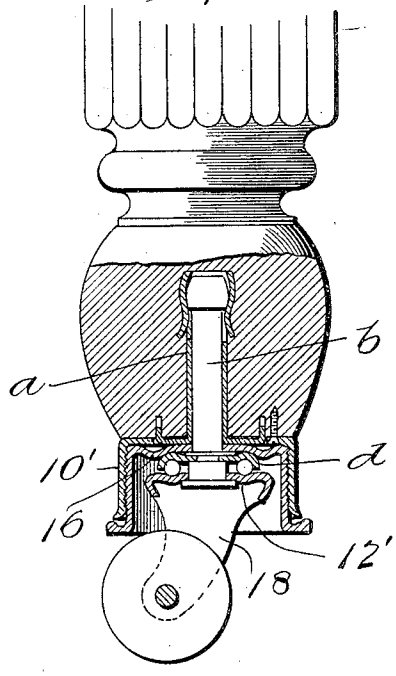


Fig. 3.



Witnesses

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FURNITURE-CASTER.

No. 804,809. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed February 3, 1905. Serial No. 244,006.

To all whom it may concern:

Be it known that I, ANDREW WALTER GRAHAM, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented new and useful Improvements in Furniture-Casters, of which the following is a specification.

This invention relates to furniture-casters, and has for its principal object to provide a caster that may be readily adjusted for the purpose of leveling tables or other articles of furniture to which it may be applied.

A further object of the invention is to provide a caster that may be readily secured to the furniture and in which all the parts may be made at minimum expense from stamped or spun sheet metal.

A still further object of the invention is to provide a structure of this class in which advantage may be taken of existing types of casters, so that the device may be applied to furniture already in use without material loss or expense.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various modifications in the structure, form, and proportions may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a vertical section of a caster constructed in accordance with the invention. Fig. 2 is a similar view illustrating a slight modification of the same. Fig. 3 is a similar view showing the application of the invention to existing types of long-spindle casters.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In the preferred form of the invention an inverted-cup-shaped casing 10 is secured to the bottom of the leg, said casing being usually formed of stamped or spun sheet metal and being provided with threads on its vertical flange. The casing-securing means may be of any type, wood-screws 11 being shown in the present instance. In this casing is screwed a second inverted cup 12, also formed of sheet metal and provided at its lower edge with a projecting flange 15, which extends beyond the outer face of the cup 10 and affords a finger-grasp for turning the lower cup. This flange may be milled or knurled, if desired, in order that it may be firmly gripped. The base or disk of the inner cup is provided with an annular rib 16, that forms an upper race for bearing-balls 17.

Below the ball-race is arranged a stamped metal bracket 18, carrying a roller 19 of the ordinary type, and the top of this bracket has an annular groove 21, forming the lower part of the ball-race. The central portion of the lower cup 12 has an opening in which is firmly secured the upper end of a headed stud 22, on which the bracket 18 may freely turn.

It is obvious that the ball-bearing will permit free rotative movement of the bracket and roller in a horizontal plane and that when necessary the lower cup may be turned in either direction to level the furniture and insure an even and firm bearing of all the legs on the floor.

In the combination shown in Fig. 2 the construction is practically the same as that already described, with the exception that the positions of the cups are reversed and the outer instead of the inner cup is turned to secure the necessary adjustment. In this construction the bottoms of both cups are recessed in order that the lower cup may extend into the upper cup to form a housing for the ball-bearing and to some extent protect it from the effects of dirt and dust and to add to the strength of the parts.

In Fig. 3 is illustrated the application of the invention to furniture provided with a type of caster in common use. The caster includes a socket *a*, secured in a recess in the bottom of a leg, and into this enters a headed spindle *b*, carrying a ball-bearing bracket 18. The outer cup 10′ is of the construction shown in Fig. 1, save that its central opening is enlarged to receive the horizontal flange of the socket. The inner cup 12′ has an opening for the passage of the spindle, and its annular ribs 16 afford a support and brace for the usual upper disk *d* of this type of caster.

By constructing all of the parts of sheet metal the caster may be made on an economical scale for application to all classes of furniture; but it is obvious that for heavy tables, such as billiard and pool tables, the parts may be formed of heavier cast metal to resist

the greater strains. In practice the cups are connected by threads of very small pitch, so that the weight of the furniture cannot act to turn them from adjusted position.

Having thus described my said invention, what I claim, and desire to secure by Letters Patent, is—

1. In a furniture-caster, a threaded metallic cup for securement to the bottom of a leg, a second threaded cup adjustable with relation thereto, and a caster-roller supported by the second cup.

2. In a furniture-caster, upper and lower threaded cups, of which the lower may be turned for purposes of adjustment, a roller-carrying bracket, and a ball-bearing between the bracket and the lower cup.

3. An adjustable caster including a threaded upper cup to be secured to the bottom of a leg, a lower threaded cup adjustable with respect thereto, and provided with an annular rib forming an upper ball-race, a headed stud carried by said lower cup, a roller-carrying bracket pivoted on the stud and having a groove forming a lower ball-race, and bearing-balls between the rib and groove.

4. An adjustable caster including a threaded upper cup formed of sheet metal, a lower threaded cup fitting therein and provided with a projecting flange, a headed stud having its upper end rigidly secured to the central portion of the lower cup, said lower cup having an annular rib forming an upper ball-race, a roller-carrying bracket pivoted on the stud and having a groove forming a second ball-race member, and bearing-balls between the rib and groove, substantially as specified.

In testimony whereof I affix my signature in presence of two subscribing witnesses.

ANDREW WALTER GRAHAM.

Witnesses:
JOS. H. BLACKWOOD,
ALBERT POPKINS.